(Cancelled)

1.

5.

comprising:

memory;

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IN THE CLAIMS

Please amend the claims as follows:

3. (Currently Amended) A method of mapping virtual memory to physical memory,					
comprising:					
identifying two or more contiguous pages in virtual memory to be mapped to physica	Ĺ				
memory;					
determining a size in pages of the two or more contiguous pages of virtual memory;					
determining an alignment in pages of the two or more contiguous pages of virtual					
memory;					
searching a free bit data structure to locate a free section of contiguous physical memory	ory				
having the desired size and alignment; and					
mapping the two or more pages in virtual memory to the located free section of					
contiguous physical memory via a single mapping;					
The method of claim 1, wherein searching a free bit data structure comprises processing a word					
comprising free bits using a population count instruction to determine the number of free bits	in				
the word.					
4. (Original) The method of claim 3, wherein the population count instruction is a vec	tor				
instruction operable to operate on multiple words per instruction issue.					

(Currently Amended) A method of mapping virtual memory to physical memory,

identifying two or more contiguous pages in virtual memory to be mapped to physical

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determining a size in pages of the two or more contiguous pages of virtual memory;					
determining an alignment in pages of the two or more contiguous pages of virtual					
memory;					
searching a free bit data structure to locate a free section of contiguous physical memory					
having the desired size and alignment; and					
mapping the two or more pages in virtual memory to the located free section of					
contiguous physical memory via a single mapping;					
The method of claim 1, wherein searching a free bit data structure comprises processing a					
word comprising free bits using a leading bit count instruction to determine the number of					
leading bits of a particular value.					
6. (Currently Amended) The method of claim 5, wherein the population count <u>leading bit</u>					
count instruction is a vector instruction operable to operate on multiple words per instruction					
issue.					
7. (Currently Amended) A method of mapping virtual memory to physical memory,					
comprising:					
identifying two or more contiguous pages in virtual memory to be mapped to physical					
memory;					
determining a size in pages of the two or more contiguous pages of virtual memory;					
determining an alignment in pages of the two or more contiguous pages of virtual					
memory:					
searching a free bit data structure to locate a free section of contiguous physical memory					
having the desired size and alignment; and					
mapping the two or more pages in virtual memory to the located free section of					
contiguous physical memory via a single mapping;					
The method of claim 1, wherein searching a free bit data structure comprises searching for a					

number of consecutive free bits matching the determined size in pages of the two or more

contiguous virtual memory pages to be mapped.

determine the number of free bits in the word.

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8.	(Currently Amended) A method of mapping virtual memory to physical memory,
comp	rising:
	identifying two or more contiguous pages in virtual memory to be mapped to physical
memo	ory;
	determining a size in pages of the two or more contiguous pages of virtual memory;
	determining an alignment in pages of the two or more contiguous pages of virtual
memo	ory;
	searching a free bit data structure to locate a free section of contiguous physical memory
<u>havin</u>	g the desired size and alignment; and
	mapping the two or more pages in virtual memory to the located free section of
contig	guous physical memory via a single mapping;
	The method of claim 1, wherein searching a free bit data structure comprises counting
conse	cutive free bits, wherein counting the number of free bits found is started only from bits
repres	enting a page number that is an integer multiple of the determined alignment.
9-11.	(Cancelled)
12.	(Currently Amended) A memory management system comprising a virtual memory
mappi	ng module, the virtual memory mapping module operable to:
	identify two or more contiguous pages in virtual memory to be mapped to physical
memo	ry;
	determine a size in pages of the two or more contiguous pages of virtual memory;
	determine an alignment in pages of the two or more contiguous pages of virtual memory;
	search a free bit data structure to locate a free section of contiguous physical memory
having	the desired size and alignment; and
	map the two or more pages in virtual memory to the located free section of contiguous
physic	al memory via a single mapping;
	The memory management system of claim 10, wherein searching a free bit data structure
compr	ises processing a word comprising free hits using a population count instruction to

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13.	(Original)	The memory management system of claim 12, wherein the population
count	instruction is a	vector instruction operable to operate on multiple words per instruction
issue.		

4. (Culterity America) A memory management system comprising a virtual memory
mapping module, the virtual memory mapping module operable to:
identify two or more contiguous pages in virtual memory to be mapped to physical
memory;
determine a size in pages of the two or more contiguous pages of virtual memory;
determine an alignment in pages of the two or more contiguous pages of virtual memory;
search a free bit data structure to locate a free section of contiguous physical memory
having the desired size and alignment; and
map the two or more pages in virtual memory to the located free section of contiguous
physical memory via a single mapping;

The memory management system of claim 10, wherein searching a free bit data structure comprises processing a word comprising free bits using a leading bit count instruction to determine the number of leading bits of a particular value.

- 15. (Currently Amended) The memory management system of claim 14, wherein the population count leading bit count instruction is a vector instruction operable to operate on multiple words per instruction issue.
- 16. (Currently Amended) A memory management system comprising a virtual memory mapping module, the virtual memory mapping module operable to:

 identify two or more contiguous pages in virtual memory to be mapped to physical
- memory:

 determine a size in pages of the two or more contiguous pages of virtual memory;

 determine an alignment in pages of the two or more contiguous pages of virtual memory:

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search a free bit data structure to locate a free section of contiguous physical memory					
having the desired size and alignment; and					
map the two or more pages in virtual memory to the located free section of contiguous					
physical memory via a single mapping;					
The memory management system of claim 10, wherein searching a free bit data structure					
comprises searching for a number of consecutive free bits matching the determined size in pages					
of the two or more contiguous virtual memory pages to be mapped.					
,,,,					
17. (Currently Amended) A memory management system comprising a virtual memory					
mapping module, the virtual memory mapping module operable to:					
identify two or more contiguous pages in virtual memory to be mapped to physical					
memory;					
determine a size in pages of the two or more contiguous pages of virtual memory;					
determine an alignment in pages of the two or more contiguous pages of virtual memory;					
search a free bit data structure to locate a free section of contiguous physical memory					
having the desired size and alignment; and					
map the two or more pages in virtual memory to the located free section of contiguous					
physical memory via a single mapping;					
The memory management system of claim 10, wherein searching a free bit data structure					
comprises counting consecutive free bits, wherein counting the number of free bits found is					
started only from bits representing a page number that is an integer multiple of the determined					
alignment.					
18-20. (Cancelled)					
21. (Currently Amended) A computerized system having a paged memory system, the					
paged memory system operable to:					
identify two or more contiguous pages in virtual memory to be mapped to physical					
memory;					
determine a size in pages of the two or more contiguous pages of virtual memory;					

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determine an alignment in pages of the two or more contiguous pages of virtual memory;
search a free bit data structure to locate a free section of contiguous physical memory
having the desired size and alignment; and
map the two or more pages in virtual memory to the located free section of contiguous
physical memory via a single mapping:

The computerized system of claim 19, wherein searching a free bit data structure comprises processing a word comprising free bits using a population count instruction to determine the number of free bits in the word

- 22. (Original) The computerized system of claim 21, wherein the population count instruction is a vector instruction operable to operate on multiple words per instruction issue.
- 23. (Currently Amended) A computerized system having a paged memory system, the paged memory system operable to:
- identify two or more contiguous pages in virtual memory to be mapped to physical memory:
- determine a size in pages of the two or more contiguous pages of virtual memory;

 determine an alignment in pages of the two or more contiguous pages of virtual memory;
 search a free bit data structure to locate a free section of contiguous physical memory
 having the desired size and alignment; and
- map the two or more pages in virtual memory to the located free section of contiguous physical memory via a single mapping;

The computerized system of claim 19, wherein searching a free bit data structure comprises processing a word comprising free bits using a leading bit count instruction to determine the number of leading bits of a particular value.

24. (Currently Amended) The computerized system of claim 23, wherein the population eount leading bit count instruction is a vector instruction operable to operate on multiple words per instruction issue.

paged memory system operable to:

25.

memory;

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(Currently Amended) A computerized system having a paged memory system, the

identify two or more contiguous pages in virtual memory to be mapped to physical

determine a size in pages of the two or more contiguous pages of virtual memory:

determine an alignment in pages of the two or more contiguous pages of virtual memory;			
search a free bit data structure to locate a free section of contiguous physical memory			
having the desired size and alignment; and			
map the two or more pages in virtual memory to the located free section of contiguous			
physical memory via a single mapping;			
The computerized system of claim 19, wherein searching a free bit data structure			
comprises searching for a number of consecutive free bits matching the determined size in pages			
of the two or more contiguous virtual memory pages to be mapped.			
26. (Currently Amended) A computerized system having a paged memory system, the			
paged memory system operable to:			
identify two or more contiguous pages in virtual memory to be mapped to physical			
memory;			
determine a size in pages of the two or more contiguous pages of virtual memory;			
determine an alignment in pages of the two or more contiguous pages of virtual memory;			
search a free bit data structure to locate a free section of contiguous physical memory			
having the desired size and alignment; and			
map the two or more pages in virtual memory to the located free section of contiguous			
physical memory via a single mapping;			

The computerized system of claim 19, wherein searching a free bit data structure comprises counting consecutive free bits, wherein counting the number of free bits found is started only from bits representing a page number that is an integer multiple of the determined

27. (Cancelled)

alignment.